Salix exigua Temporarily Flooded Shrubland

COMMON NAME	Narrowleaf Willow Temporarily Flooded Shrubland
SYNONYM	Sandbar Willow Shrubland
PHYSIOGNOMIC CLASS	Shrubland (III)
PHYSIOGNOMIC SUBCLASS	Deciduous shrubland (III.B)
PHYSIOGNOMIC GROUP	Cold-deciduous shrubland (III.B.2)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (III.B.2.N)
FORMATION	Temporarily flooded cold-deciduous shrubland (III.B.2.N.d)
ALLIANCE	SALIX EXIGUA TEMPORARILY FLOODED SHRUBLAND ALLIANCE

CLASSIFICATION CONFIDENCE LEVEL 1

USFWS WETLAND SYSTEM Terrestrial

RANGE

Badlands National Park

Sandbar willow shrubland stands are quite small and rare within Badlands NP. They were observed along the banks of Sage Creek, Fog Creek, White River, and Cheyenne River.

Globally

This community is found along rivers and streams in Oregon, Washington, Idaho, Montana, southern Manitoba, Wyoming, Colorado, Oklahoma, Nebraska, South Dakota, and Iowa. It probably extends into North Dakota.

ENVIRONMENTAL DESCRIPTION

Badlands National Park

Sandbar willow shrubland stands occur adjacent to creeks and rivers where moist sediments collect, and adjacent to some wetland communities. These sites are nearly level and well-supplied with near-to-surface ground water.

Globally

This community is found on recently deposited or disturbed alluvial material. The parent material is alluvial sand, although silt, clay, or gravel may be present. Soil development is poor to absent.

MOST ABUNDANT SPECIES

Badlands National Park

Stratum	Species
Shrub	*Fraxinus pennsylvanica*, *Salix exigua*
Herbaceous	*Spartina pectinata*

Globally

Stratum	Species
Shrub	*Salix exigua*

CHARACTERISTIC SPECIES

Badlands National Park

Salix exigua, *Spartina pectinata*

Globally

Salix exigua

OTHER NOTABLE SPECIES

VEGETATION DESCRIPTION

Badlands National Park

Mature sandbar willow shrublands typically have dense cover, between 60-90%. Sandbar willow is strongly dominant in established stands, but may be relatively sparse along sediment deposits where it is becoming established as seedlings along with cottonwood (*Populus deltoides*).

Globally

This community is dominated by shrubs, generally between 2 and 4 meters tall. The most common of these is *Salix exigua. Salix irrorata* and saplings of *Populus deltoides* or *Salix amygdaloides* are also frequently found in the shrub layer. This stratum can have moderate to high stem density in the community as a whole. The species in the shrub layer do not form a closed canopy, allowing significant light to reach the ground layer. There are often patches where the shrub layer is absent. The herbaceous cover is sparse to moderate. Older stands and places with less competition from the shrubs have greater herbaceous cover. The composition of the herbaceous layer can vary greatly. Species that are often found in this community are *Cenchrus longispinus, Polygonatum lapathifolium, Scirpus americanus, Triglochin maritimum*, and *Xanthium strumarium*.

CONSERVATION RANK G5. This type is widespread and common throughout its range.

DATABASE CODE CEGL001197

MAP UNITS Stands of sandbar willow shrubland rarely meet the minimum mapping unit of 0.5 hectares, but a few were large enough to assign to map class 38 (Sandbar willow Temporarily Flooded Shrubland) on the Badlands NP vegetation map.

SIMILAR ASSOCIATIONS
Salix exigua / Mesic Graminoids Shrubland (These two types may be essentially the same.)

COMMENTS
Badlands National Park
Sandbar willow shrubland stands are small and nearly insignificant in cover value for the park. Only a few stands were visited during the course of the study, particularly along Sage Creek and the White River near the Visitor's Center.

Globally
In Nebraska, Steinauer and Rolfsmeier (1997) report that *Amorpha fruticosa, Cornus sericea*, and *Salix lutea* are also present in the shrub layer. In the herbaceous layer they report the following species: *Ambrosia artemisiifolia* and *Aster lanceolatus.*

REFERENCES
Bellah, R. G. and L. C. Hulbert. 1974. Forest succession on the Republican River floodplain in Clay County, Kansas. The Southwestern Naturalist. 19(2):155-166.

Evenden, A.G. 1990. Ecology and distribution of riparian vegetation in the Trout Creek Mountains of southeastern Oregon. Ph.D. dissertation. Oregon State Univ., Corvallis. 156 pp.

Foti, T., M. Blaney, X. Li, and K. G. Smith. 1994. A classification system for the natural vegetation of Arkansas. Proc. Ark. Acad. of Sci. 48:50-53.

Hansen, P., K. Boggs, R. Pfister. 1991. Classification and management of riparian and wetland sites in Montana. Unpublished draft version prepared for Montana Riparian Association, Montana Forest and Conservation Experiment Station, School of Forestry, University of Montana, Missoula, MT. 478 pp.

Hansen, P., R. Pfister, J. Joy, D. Svoboda, K. Boggs, L. Myers, S. Chadde, and J. Pierce. 1989. Classification and management of riparian sites in Southwestern Montana. Unpublished draft prepared for the Montana Riparian Association, School of Forestry, University of Montana, Missoula, MT. 292 pp.

Hansen, P.L., R.D. Pfister, K. Boggs, B.J. Cook, J. Joy and D.K. Hinckley. 1995. Classification and management of Montana's riparian and wetland sites. Montana Forest and Conservation Experiment Station, School of Forestry, University of Montana, Misc. Publ. No. 54. 646 pp.

Hoagland, B. W. 1997. Preliminary plant community classification for Oklahoma. Unpubl. draft doc. version 35629. Univ. of Okla., Okla. Nat. Heritage Inv. Norman, Okla. 47 p.

Kittel, G.M. and N.D. Lederer. 1993. A preliminary classification of the riparian vegetation of the Yampa and San Miguel/Dolores River Basins. Unpublished report prepared for Colorado Department of Health and the Environmental Protection Agency by The Nature Conservancy, Colorado Field Office, Boulder, CO.

Kovalchik, B.L. 1987. Riparian zone associations - Deschutes, Ochoco, Fremont, and Winema National Forests. USDA Forest Service Technical Paper 279-87. Pacific Northwest Region, Portland, OR. 171 pp.

Phillips, C.M. 1977. Willow carrs of the upper Laramie River Valley, Colorado. Unpublished thesis, Colorado State University, Fort Collins. 71 pp.

Steinauer, G. 1989. Characterization of the natural communities of Nebraska. Appendix D, p. 103-114 in: M. Clausen, M. Fritz, and G. Steinauer. The Nebraska Natural Heritage Program, two year progresss report. Unpubl. doc. Nebr. Game and Parks Comm., Nat. Heritage Prog. Lincoln, Nebr.

Steinauer, G. and S. Rolfsmeier. 1997. Terrestrial natural communities of Nebraska. Draft - October 28, 1997. Nebraska Game and Parks Commission, Lincoln, NE. 117 p.

The Nature Conservancy (TNC). 1991. North Dakota state community abstract - pioneer riparian community. Midwest Regional Office, Minneapolis, MN.

Wilson, R. E. 1970. Succession in stands of Populus deltoides along the Missouri River in southeastern South Dakota. Am. Midl. Nat. 83(2):330-342.